

PATENT COOPERATION TREATY

PCT/FR2003/001110



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FR2003/001110	International filing date (<i>day/month/year</i>) 09 avril 2003 (09.04.2003)	Priority date (<i>day/month/year</i>) 10 avril 2002 (10.04.2002)
International Patent Classification (IPC) or national classification and IPC B27K 3/36		
Applicant LAPEYRE		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 23 juin 2003 (23.06.2003)	Date of completion of this report 04 May 2004 (04.05.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FR2003/001110

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages 1-4, 6, 7, 10, as originally filed
pages _____, filed with the demand
pages 5, 8, 9, filed with the letter of 03 March 2004 (03.03.2004)
- ☒ the claims:
pages 1-18, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the drawings:
pages 1/1, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/FR 03/01110

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-15	YES
	Claims	16-18	NO
Inventive step (IS)	Claims	1-15	YES
	Claims	16-18	NO
Industrial applicability (IA)	Claims	all claims	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following documents:

- D1: DATABASE CA [on line] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; DAWSON, BERNARD S. W. ET AL: 'Reactivity of radiata pine sapwood towards carboxylic acid anhydrides' retrieved from STN Database accession no. 130:268671 CA XP002222940 & HOLZFORSCHUNG (1999), 53(2), 195-198, 1999
- D2: DATABASE CA [on line] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; VACA-GARCIA, C. ET AL: 'Cellulose esterification with fatty acids and acetic anhydride in lithium chloride/N, N-dimethylacetamide medium' retrieved from STN Database accession no. 128:168867 CA XP002255518 & JOURNAL OF THE AMERICAN OIL CHEMISTS' SOCIETY (1998), 75(2), 315-319, 1998
- D3: DATABASE CA [on line] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; SOC. ANON. DITE. PROGIL. PATENT NO. KIND DATE APPLICATION NO. DATE: 'Coating composition containing phenolic resins' retrieved from STN Database accession no. 18:22009 CA XP002255519 & GB 215 722 1 (SOC. ANON. DITE. PROGIL. PATENT NO. KIND DATE APPLICATION NO. DATE) 11 December 1924 (1924-12-11)

1.1. D2 discloses (cf. Abstract) a method for the esterification of cellulose by a mixture of fatty acids and acetic anhydride in the presence of a catalyst (LiCl and N,N dimethylacetamide). This method is implemented in a homogeneous medium as it is preferably applied to sawdust. This mutually contacts the reagents faster and therefore also promotes faster kinetics.

1.2. The subject matter of claim 1 of the present application differs from D2 in that an impregnation is conducted, which means slower kinetics and extended contact time between the lignocellulosic materials and the chemical reagents. Furthermore, this impregnation takes place in a heterogeneous medium as it relates more particularly to pieces of wood. Finally, a mixed anhydride, excepting mixed acetic/benzoic anhydride, is selected as the chemical impregnation agent.

1.3. D1 discloses a method for contacting pieces of pine with a mixed acetic/benzoic acid anhydride, which is explicitly excluded from claim 1 of the present application.

1.4. The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

2.1. The problem which the present invention is intended to solve can therefore be considered that of proposing a method for treating pieces of wood that enables the mechanical properties and the appearance of said piece to be preserved, the methods of the prior art typically failing to achieve this.

2.2. The solution to this problem as proposed in claim 1 of the present application is considered to involve an

inventive step (PCT Article 33(3)), because, although the method described in D1 involves impregnation, only a mixed anhydride is cited, and no other document of the prior art treats a piece of wood with a different anhydride.

Furthermore, since, as mentioned above, contact in D2 is implemented in a homogeneous and not a heterogeneous medium, it is doubtful whether this should be referred to as impregnation.

2.3. The subject matter of claim 1 of the present application cannot be reached by any combination of the teaching of the prior art documents, and therefore involves an inventive step (PCT Article 33(3)).

2.4. Claims 2-15 are dependent on claim 1 and, as such, also meet the PCT requirements of novelty and inventive step.

3. As regards independent claims 16-18, which all concern a product obtained by the impregnation method which is the subject matter of claim 1, their subject matter is not considered novel as these pieces of treated wood are indistinguishable from pieces of wood produced by different methods found in the prior art. A novel method for manufacturing a product is not sufficient to also make a product itself novel. The subject matter of claims 16-18 is not, therefore, novel (PCT Article 33(2)).

4. Industrial applicability obviously follows from the above.